

ABSTRACT

A heating apparatus 1 includes a shell 2, a primary heat exchanger (sensible heat exchanger) 3, a burner (combustion means) 5, and a fan 6. A secondary heat exchanger (latent heat exchanger) 7 has a plurality of heat receiving tubes 18 arranged in parallel between a pair of headers 16 and 17, the heat receiving tubes 18 being fixed to tube plates 20. The heat receiving tubes 18 are bare tubes without fins and are arranged across flow of combustion gas. The number of the tubes 18 arranged vertically is less than the number of the tubes 18 arranged horizontally.